

Application No. 09/716757

Amendment

Page 2

the outside surface being composed of a first material, and the inside surface being composed of a second material;

the first material having a first predetermined hardness, the second material having a second predetermined hardness, the second predetermined hardness having a higher durometer value than the first predetermined hardness.

2. The stent delivery catheter of claim 1 wherein the second material is smoother than the first material.

3. The stent delivery catheter of claim 1 wherein the first predetermined hardness is less than approximately 55D, and the second predetermined hardness is least 55D.

4. The stent delivery catheter of claim 1 wherein the first predetermined hardness is approximately 35D, and the second predetermined hardness is approximately 55D.

Please replace claim 6 with amended claim 6, rewritten in independent form:

6. A stent delivery system comprising:

a catheter including a stent mounting region;

a stent disposed about the stent mounting region of the catheter, the stent having a distal end and a proximal end, the stent further having an unexpanded state and an expanded state, and

at least one stent retaining sleeve, the at least one stent retaining sleeve having an inside surface and an outside surface and a first end and a second end,

the first end overlying an end of the stent when the stent is in the unexpanded state, the second end engaged to at least a portion of the catheter adjacent to the stent mounting region;

the outside surface being composed of a first material, at least a portion of the first end of the inside surface being composed of a second material;

Application No. 09/716757
Page 3

Amendment

A²
Cancel the first material having a first predetermined hardness, the second material having a second predetermined hardness, the second predetermined hardness having a higher durometer value than the first predetermined hardness

wherein the first material and the second material are co-extruded.

Please replace claims 9-12 with the following amended claims 9-12:

9. The stent delivery system of claim 1 wherein the first material is constructed from at least one member of the group consisting of: styrenic block copolymers, polyurethanes, silicone rubber, natural rubber, copolyesters, polyamides, EPDM rubber/polyolefin, nitril rubber/PVC, fluoroelastomers, butyl rubber, epichlorohydrin, polyester elastomers, polyamide elastomers and any combination thereof.

A³ 10. The stent delivery system of claim 1 wherein the second material is constructed from at least one member of the group consisting of: polyolefins, polystyrene, polyvinyl chloride, acrylonitrile-butadiene-styrene polymers, polyacrylonitrile, polyacrylate, vinyl acetate polymer, cellulose plastics, polyurethanes, polyethylene terephthalate, polyacetal, polyethers, polycarbonates, polyamides, polyphenylene sulfide, polyarylethersulfones, polyaryletherketones, polytetrafluoroethylene, and any combination thereof.

11. A stent retaining sleeve for retaining stent ends on a balloon catheter comprising:

a first material and a second material, wherein the first material has a first predetermined hardness and the second material has a second predetermined hardness, the second predetermined hardness being greater than the first predetermined hardness;

the stent retaining sleeve having an inside surface and an outside surface, and a first end and a second end, the inside surface of the first end constructed and arranged to overlay an end of a stent, the second end constructed and arranged to be in contact with at least a portion

Application No. 09/716757
Page 4

Amendment

of a catheter;

the inside surface of the first end being composed of the second material.

12. A stent delivery system comprising:

a catheter including a stent mounting region;

a stent disposed about the stent mounting region of the catheter, the stent having a distal end and a proximal end, the stent further having an unexpanded state and an expanded state, and

A³
Cancel at least one stent retaining sleeve, the at least one stent retaining sleeve having a first end and a second end, the first end overlying an end of the stent when the stent is in the unexpanded state, the second end engaged to at least a portion of the catheter adjacent to the stent mounting region;

the at least one sleeve having an inside surface and an outside surface, the inside surface characterized as being harder than the outside surface.

Please add the following as new claim 13:

13. A stent delivery system comprising:

A⁴ a catheter including a stent mounting region;

a stent disposed about the stent mounting region of the catheter, the stent having a distal end and a proximal end, the stent further having an unexpanded state and an expanded state, and

at least one stent retaining sleeve, the at least one stent retaining sleeve having an inside surface and an outside surface and a first end and a second end, the at least one stent retaining sleeve having a uniform thickness,

the first end overlying an end of the stent when the stent is in the unexpanded state, the second end engaged to at least a portion of the catheter adjacent to the stent mounting region;